

(ix) A description of how the information or data obtained is to be analyzed or used;

(x) A description of any criteria to be used as safety limits during the testing;

(xi) A description of the criteria to be used to measure or determine the success or failure of the tests. If acceptance is to be based on extrapolation of less than full-level testing results, the analysis to be done to justify the validity of the extrapolation shall be described;

(xii) Quality control procedures to ensure that the inspection, testing, and maintenance procedures are followed;

(xiii) Criteria to be used for the revenue service operation of the equipment; and

(xiv) A description of any testing of the equipment that has previously been performed.

(2) Submit a copy of the plan to FRA at least 30 days prior to testing the equipment and include with that submission notification of the times and places of the pre-revenue service tests to permit FRA observation of such tests. For Tier II passenger equipment, the railroad shall obtain FRA approval of the plan under the procedures specified in § 238.21.

(3) Comply with the plan, including fully executing the tests required by the plan.

(4) Document in writing the results of the tests. For Tier II passenger equipment, the railroad shall report the results of the tests to the FRA Associate Administrator for Safety at least 90 days prior to its intended operation of the equipment in revenue service.

(5) Correct any safety deficiencies identified in the design of the equipment or in the inspection, testing, and maintenance procedures, uncovered during the testing. If safety deficiencies cannot be corrected by design changes, the railroad shall impose operational limitations on the revenue service operation of the equipment that are designed to ensure that the equipment can operate safely. For Tier II passenger equipment, the railroad shall comply with any operational limitations imposed by the FRA Associate Administrator for Safety on the revenue

service operation of the equipment for cause stated following FRA review of the results of the test program. This section does not restrict a railroad from petitioning FRA for a waiver of a safety regulation under the procedures specified in part 211 of this chapter.

(6) Make the plan and documentation kept pursuant to that plan available for inspection and copying by FRA upon request.

(7) For Tier II passenger equipment, obtain approval from the FRA Associate Administrator for Safety prior to placing the equipment in revenue service. The Associate Administrator grants such approval upon a showing of the railroad's compliance with the applicable requirements of this part.

(c) If a railroad plans a major upgrade or introduction of new technology on Tier II passenger equipment that has been used in revenue service in the United States and that affects a safety system on such equipment, the railroad shall follow the procedures specified in paragraph (b) of this section prior to placing the equipment in revenue service with such a major upgrade or introduction of new technology.

**§ 238.112 Door emergency egress and rescue access systems.**

Except as provided in § 238.439—

(a) Each powered, exterior side door in a vestibule that is partitioned from the passenger compartment of a passenger car shall have a manual override device that is:

(1) Capable of releasing the door to permit it to be opened without power from inside the car;

(2) Located adjacent to the door which it controls; and

(3) Designed and maintained so that a person may readily access and operate the override device from inside the car without requiring the use of a tool or other implement. If the door is dual-leafed, only one of the door leaves is required to respond to the manual override device.

(b) Each Tier I passenger car ordered on or after September 8, 2000, or placed in service for the first time on or after September 9, 2002, and all Tier II passenger cars shall have a minimum of

two exterior side doors, one in each side of the car. Each such door shall provide a minimum clear opening with dimensions of 30 inches horizontally by 74 inches vertically. A set of dual-leaved doors is considered a single door for purposes of this paragraph. Each powered, exterior side door on each such passenger car shall have a manual override device that is:

(1) Capable of releasing the door to permit it to be opened without power from both inside and outside the car;

(2) Located adjacent to the door which it controls; and

(3) Designed and maintained so that a person may access the override device from both inside and outside the car without requiring the use of a tool or other implement.

NOTE TO PARAGRAPH (b): The Americans with Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles also contain requirements for doorway clearance (See 49 CFR part 38).

(c) A manual override device used to open a powered, exterior door may be protected with a cover or a screen capable of removal without requiring the use of a tool or other implement.

(d)(1) Prior to January 28, 2015, all door exits intended for emergency egress shall either be lighted or conspicuously and legibly marked with luminescent material on the inside of each car, and legible and understandable instructions shall be provided for their use at or near each such door.

(2) On or after January 28, 2015, all door exits intended for emergency egress shall be marked, and instructions provided for their use, as specified in § 238.125.

(e)(1) Prior to January 28, 2015, all doors intended for access by emergency responders shall be marked on the exterior of the car with retroreflective material, and legible and understandable instructions shall be posted at or near each such door.

(2) On or after January 28, 2015, all doors intended for access by emergency responders shall be marked, and instructions provided for their use, as specified in § 238.125.

(f) Vestibule doors and other interior doors intended for passage through a passenger car. The requirements of paragraphs (f)(1) through (6) of this section

apply only to passenger cars ordered on or after January 28, 2014, or placed in service for the first time on or after January 29, 2018.

(1) *General.* Except for a door providing access to a control compartment and a bi-parting door, which is subject to the requirements in paragraph (f)(3) of this section, each vestibule door and any other interior door intended for passage through a passenger car shall be equipped with a removable panel or removable window in the event the door will not open in an emergency, or the car is on its side and the door is difficult to open. If the door is powered, it shall have a manual override device that conforms with the requirements of paragraphs (f)(4) through (6) of this section.

(2) *Removable panels and windows—(i) Ease of operability.* Each removable panel or removable window shall be designed to permit rapid and easy removal from each side of the door during an emergency situation without requiring the use of a tool or other implement.

(ii) *Dimensions.* Removal of the panel or window shall create an unobstructed opening in the door with minimum dimensions of 21 inches horizontally by 28 inches vertically.

(iii) *Location.* Each removable panel or removable window shall be located so that the lowest point of the opening created by removing the panel or window is no higher than 18 inches above the floor.

(3) *Bi-parting doors.* Each powered, bi-parting vestibule door and any other interior, powered bi-parting door intended for passage through a passenger car shall be equipped with a manual override device and mechanism to retain each door leaf in the open position (*e.g.*, ratchet and pawl, or sprag). Each manual override device shall conform with the requirements of paragraphs (f)(4), (f)(5)(ii), and (f)(6) of this section.

(4) *Manual override devices.* Each manual override device shall be:

(i) Capable of releasing the door or door leaf, if the door is bi-parting, to permit it to be opened without power;

(ii) Located adjacent to the door or door leaf, if the door is bi-parting, it controls; and

## § 238.113

(iii) Designed and maintained so that a person may readily access and operate the override device from each side of the door without the use of a tool or other implement.

(5) *Marking and instructions.* (i) Each removable panel or removable window in a vestibule door or other interior door intended for passage through a passenger car shall be conspicuously and legibly marked with luminescent material on each side of the door as specified in section 5.4.2 of APTA PR-PS-S-002-98, Rev. 3, "Standard for Emergency Signage for Egress/Access of Passenger Rail Equipment," Authorized October 7, 2007, or an alternative standard providing at least an equivalent level of safety, if approved by FRA pursuant to § 238.21. Legible and understandable operating instructions shall be posted on each side of the door at each such panel or window. The incorporation by reference of this APTA standard was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. You may obtain a copy of the incorporated document from the American Public Transportation Association, 1666 K Street NW., Washington, DC 20006, [www.aptastandards.com](http://www.aptastandards.com). You may inspect a copy of the document at the Federal Railroad Administration, Docket Clerk, 1200 New Jersey Avenue SE., Washington, DC or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(ii) For bi-parting doors, each manual override device and each retention mechanism shall be conspicuously and legibly marked with luminescent material. Legible and understandable operating instructions for each manual override device and each retention mechanism shall be posted at or near each such device or mechanism.

(6) *Testing.* At an interval not to exceed 184 days, as part of the periodic mechanical inspection, each railroad shall test a representative sample of the door removable panels, removable windows, manual override devices, and retention mechanisms on its cars, as

## 49 CFR Ch. II (10–1–14 Edition)

applicable, to determine that they operate as intended. The sampling method must conform with a formalized statistical test method.

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### § 238.113 Emergency window exits.

(a) Number and location. Except as provided in paragraph (a)(3) of this section, the following requirements in this paragraph (a) apply on or after April 1, 2008—

(1) *Single-level passenger cars.* Each single-level passenger car shall have a minimum of four emergency window exits. At least one emergency window exit shall be located in each side of each end (half) of the car, in a staggered configuration where practical. (See Figure 1 to this subpart; see also Figures 1b and 1c to this subpart.)

(2) *Multi-level passenger cars—main levels.* Each main level in a multi-level passenger car is subject to the same requirements specified for single-level passenger cars in paragraph (a)(1) of this section.

(3) *Multi-level passenger cars—levels with seating areas other than main levels.*

(i) Except as provided in paragraphs (a)(3)(ii) and (iii) of this section, on or after August 1, 2009, any level other than a main level used for passenger seating in a multi-level passenger car, such as an intermediate level, shall have a minimum of two emergency window exits in each seating area. The emergency window exits shall be accessible to passengers in the seating area without requiring movement through an interior door or to another level of the car. At least one emergency window exit shall be located in each side of the seating area. An emergency window exit may be located within an exterior side door in the passenger compartment if it is not practical to place the window exit in the side of the seating area. (See Figures 2 and 2a to this subpart.)

(ii) Only one emergency window exit is required in a seating area in a passenger compartment if:

(A) It is not practical to place an emergency window exit in a side of the passenger compartment due to the need to provide accessible accommodations under the Americans with Disabilities Act of 1990;